

II. REMARKS

Upon entry of the present amendment, claims 1, 29, 30, 32 to 59, 66 to 70, 75, and 80 to 86 will be pending.

It is stated in the Office Action that claims 46 to 55, 57 to 59, 67, 68, and 80 to 86 are allowed. It also is stated in the Office Action that claim 2 is objected to as depending from a rejected base claim, but would otherwise be allowable if amended to include all of the limitations of the base claim and any intervening claim. Applicants point out the amendment to claim 1 to recite “cold stress” and to delete reference to SEQ ID NOS: “2227-2585” and “4910-5263” essentially corresponds to an amendment of claim 2 that recites all of the limitations of base claim 1.

A. Regarding the Amendments

Claim 1 has been amended to more specifically refer to “cold stress”, which constitutes the abiotic stress condition for which SEQ ID NOS:1034 and 3729 (elected pursuant to the Restriction Requirement) are responsive, and to delete reference to SEQ ID NOS: “2227-2585” and “4910-5263”. The amendment is supported by claim 2, which has been cancelled herein.

Claims 1, 66 and 75 have been amended to clarify that “nucleic acid molecules representative of polynucleotides expressed” in plant cells include “RNA expressed in the cells, cDNA derived from said RNA, cRNA derived from said RNA, or cRNA derived from said cDNA”. The amendment is supported by claim 27 as originally filed and, for example, at paragraph 192, page 95. As such, the amendment does not add new matter.

Claim 29 has been amended to delete the term “polynucleotide portion.” It is submitted that the amendment merely clarifies the claimed subject matter and, therefore, does not add new matter. Claims 32 to 36, 43 and 45, which depend directly or indirectly from claim 29, have been amended such that the language corresponds to that of amended claim 29. As such, the amendments merely address a formality, and do not add new matter.

Claim 41 has been amended to delete the term “detectable” in referring to a “marker”. It is submitted that the amendment merely clarifies the claim language, and does not add new matter.

It is submitted that the amendments do not require a new search or new consideration because the amendments address issues that have been of issue in the present case. The amendments were not made earlier in the prosecution because it is believed that the claims, prior to the present amendment, clearly defined the subject matter regarded as the invention (see Applicants’ Amendment mailed July 1, 2004). It is submitted that the amendments place the claims in condition for allowance, or in better condition for appeal by reducing the issues. For these reasons, and because the amendments do not introduce new matter, entry of the amendments and reconsideration of the application is respectfully requested.

B. Regarding the Finality of the Office Action

Claims 32 to 35 are newly rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement. It is stated in the Office Action that “Applicant’s amendment necessitated the new ground(s) of rejection presented in this Office action.” (Office Action, page 7). Applicants submit, however, that the rejection could have been made in the Office Action mailed March 2, 2004 and, therefore, request that the finality be withdrawn.

More specifically, in the Office Action mailed March 2, 2004, a rejection under 35 U.S.C. § 112, second paragraph, stated that “The recitation of ‘functional peptide portion thereof’ (claims 32, 33, 34) is vague, indefinite, and incomplete because the instant application does not disclose or define what a functional peptide portion of the peptide is.” (OA, page 2, (d)). In Applicants’ Amendment mailed July 1, 2004, it was pointed out that the specification clearly defines a “functional peptide portion” of a plant stress-regulated polypeptide (page 82, paragraph 160), and claim 32 was amended to insert the language as recited at page 82, paragraph 160. However, the present Office Action maintains the rejection of the term “functional peptide portion thereof” under 35 U.S.C. § 112, second paragraph, “for reasons already of record”, stating that “Applicants’

assertion [in the Amendment mailed July 1, 2004] is not convincing because what the application describes at paragraph 160, page 82 is a wish or a goal and not a functional portion of a protein....” (O.A., page 5, paragraph (d)). As such, it would appear from the present Office Action that Applicants’ amendment did not clarify the claimed subject matter and, therefore, could not have necessitated the new ground of rejection.

For the above reasons, it is submitted that the rejection of claims 32 to 35 under 35 U.S.C. §112, first paragraph, could have been made prior to Applicants’ Amendment mailed July 1, 2004, and that this new ground of rejection was not necessitated by Applicants’ amendment. Accordingly, if claims 32 to 35 are not deemed allowable in view of the amendments and following remarks, it is respectfully requested that the Examiner reconsider and withdraw the finality of the present Office Action.

C. Rejections under 35 U.S.C. § 112

The objection to the specification and corresponding rejection of claims 32 to 35 under 35 U.S.C. §112, first paragraph, as allegedly lacking enablement is respectfully traversed.

It is stated in the Office Action that the claims are not enabled because the specification does not disclose functional peptide portions of the amino acid sequences encoded by the SEQ ID NOS: recited in the claims and having the functional characteristics as recited. Although Applicants submit that the skilled artisan would have known how to make and use such functional peptide portions of the recited sequences, the claims nevertheless have been amended to delete reference to “functional peptide portions” of the stress related polypeptides in order to advance prosecution of the subject application. Accordingly, it is submitted that the objection to the specification and corresponding rejection of claims 32 to 35 under 35 U.S.C. §112, first paragraph, is moot.

The rejections of claims 1, 29, 30, 32 to 45, 56, 66, 69, 70 and 75 under 35 U.S.C. § 112, second paragraph, as allegedly vague and indefinite are respectfully traversed. The rejections are addressed referring to the Sections (a, b, c, etc.) as set forth in the Office Action.

(a), (b), (h), and (i)

Claims 1, 66 (note: (h) inadvertently refers to claim "56") and 75 are allegedly vague in reciting the term "representative of expressed polynucleotides" because it is not clear what the sample might or might not be representative of. Applicants maintain that the skilled artisan, considering the term in its full context in the claims, would know that the term includes, for example, cDNA molecules and RNA molecules such as mRNA and cRNA (see, also, claim 27; and paragraph 192, at page 95). Nevertheless, in order to advance prosecution of the subject application, the claims have been amended to more specifically refer to specific types of such nucleic acid molecules. As such, it is respectfully requested that this ground of rejection be removed.

(c)

Claims 29, 43 and 45 allegedly are vague in reciting to a "polynucleotide portion" because no lower limit is set for the "portion". Applicants maintain that the skilled artisan, reading the claims, would know that the lower limit of a "polynucleotide portion" of the cold stress-regulated gene encompassed within the claimed subject matter comprises at least enough of the polynucleotide such that the coding region (e.g., SEQ ID NO:1034) encodes a polypeptide having the recited activity and/or the regulatory region (e.g., SEQ ID NO:3729) comprises a nucleotide sequence that functions as a cold stress responsiveness element. Nevertheless, in order to advance prosecution of the subject application, claim 29 and the claims depending therefrom have been amended to delete the term "polynucleotide portion". Accordingly, it is respectfully requested that this ground of rejection be removed.

(d)

Claims 32 to 34 are allegedly vague and incomplete in reciting the term "functional peptide portion thereof" because the application does not disclose or define what a functional portion is, and because the definition at paragraph 160 (page 82) of the specification allegedly provides only a wish or a goal. Although Applicants maintain that the skilled artisan would have known the meaning of a "functional peptide portion" of a plant stress regulated polypeptide (e.g., of SEQ ID NO:1034), the

claims nevertheless have been amended to delete the term. Accordingly, it is respectfully requested that this ground of rejection be removed.

(e)

Claim 41 is allegedly vague in reciting the term "detectable marker" because the application does not distinguish between a detectable marker and an undetectable marker. Although Applicants maintain that the term would be clearly known to the skilled artisan, claim 41 nevertheless has been amended to delete the term "detectable" as suggested in the Office Action. Accordingly, it is respectfully requested that this ground of rejection be removed.

(f), (g) and (i)

Claims 56, 69, and 70 are allegedly vague in reciting the term "improves the nutritional value" and/or "improves the ornamental value" because the specification does not describe what is meant by improved. Applicants submit that the skilled artisan would know whether a transgenic plant has improved nutritional or ornamental value as compared to a corresponding non-transgenic plant. For the example, the skilled nutritionist would know that a transgenic plant that can produce more stored carbohydrates when grown under cold stress conditions as compared to a corresponding non-transgenic plant provides improved nutritional value because more food can be produced from the transgenic plant. Similarly, the skilled florist would know that a transgenic plant that flowers longer when exposed to cold stress conditions as compared to the flowering time of a corresponding non-transgenic plant has improved ornamental value. As such, it is submitted that claimed subject matter would be clearly understood by the skilled person and, therefore, respectfully requested that this ground of rejection be removed.

(k)

Claim 75 is allegedly vague in reciting the term "array of probes representative of the plant cell genome" because it is not clear what sample might or might not be representative. It is stated in the Office Action that the rejection is maintained because Applicants did not point out with

specificity where the specification discloses, as asserted, that such an array contains sufficiently diverse probes that can identify at least 30% of the polynucleotides expressed in a plant cell, and further discloses an Affymetrix GeneChip[®] Arabidopsis Genome Array as an example of such an array. Applicants point out that the term "array of probes representative of a plant cell genome" is defined at paragraph 174, page 89, and that the use of an exemplary Affymetrix array is provided in Example 1 (see, e.g., paragraph 190-191, pages 94-95). As such, it is submitted that the skilled artisan, reading claim 75 in view of the specification, would have known the meaning of the term "array of probes representative of the plant cell genome" and, therefore, respectfully requested that this ground of rejection be removed.

In view of the amendments and the above remarks, it is submitted that the claims are clear and definite such that the skilled artisan, reading the claims, would know the subject matter regarded as the invention. Accordingly, it is respectfully requested that the rejections of claims 1, 29, 30, 32 to 45, 56, 66, 69, 70 and 75 under 35 U.S.C. § 112, second paragraph, be removed.

Applicants submit that the claims are in condition for allowance, and a notice to that effect is respectfully requested. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this application.

In re Application of:

Harper et al.

Application No.: 09/938,842

Filed: August 24, 2001

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PATENT

Attorney Docket No.: SCRIP1300-3

No additional fee beyond that enclosed herewith for the one month extension of time is deemed necessary in connection with the filing of this Response. However, if any fee is required, the Commissioner is authorized to charge any fee (or credit any overpayment) to Deposit Acct. No. 07-1896.

Respectfully submitted,

Dated: January 28, 2005



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